

ten thousand

32 142



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Improvement and
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<u>T</u> h	Th	H	T	O
				

2 142

hundred thousand

252 142



HTh	TTh	Th	H	T	O
					

52 142

million

4 252 142



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M	<u>HTh</u>	<u>TTh</u>	Th	H	T	O
   	  	    	  	 	   	 

252 142

ten million

46 252 142



TM	M	<u>HTh</u>	<u>TTh</u>	Th	H	T	O
							

6 252 142

accuracy
(level of)

$$3.7 + 4.9 \approx 4 + 5$$

$$3.7 + 4.9 \approx 9$$

(**accurate to** the nearest whole number)



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Picture, model, or diagram

Non-Example

4		5	
3.7	0.3	4.9	0.1

$$3.7 + 4.9 \neq 9000$$

This is inaccurate

round (-ing)

$$4.9 \approx 5$$

$$4.9 = 5$$

(rounded to the nearest whole number)

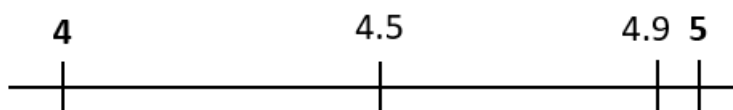
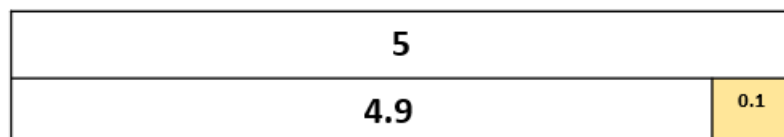


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Picture, model, or diagram

Non-Example



$$4.9 \neq 27$$

(To the nearest whole number, 4.9 does not round to 27)

common factor

factors of 9 = 1, 3, 9

factors of 21 = 1, 3, 7, 21

3 is a common factor of 9 and 21

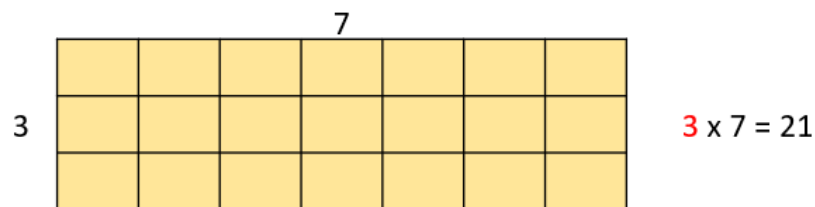
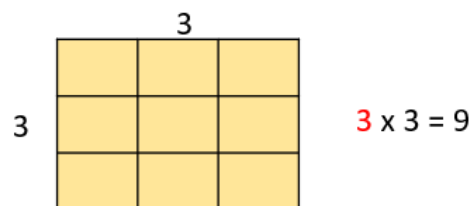


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Picture, model, or diagram

Non-Example



multiples of 9 = 9, 18, 27,

multiples of 6 = 6, 12, 18,

18 is a common multiple of 6 and 9

common multiple

multiples of 9 = 9, 18, 27,

multiples of 6 = 6, 12, 18,

18 is a common multiple of 6 and 9

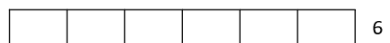


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Picture, model, or diagram

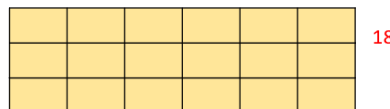
Non-Example



6

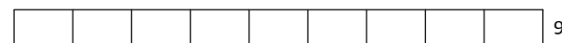


12

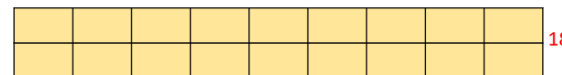


18

$$3 \times 6 = 18$$



9



18

$$2 \times 9 = 18$$

factors of 9 = 1, 3, 9

factors of 21 = 1, 3, 7, 21

3 is a common factor of 9 and 21

prime number

5

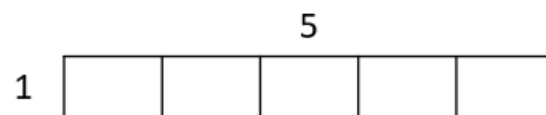


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Advisory Service

Picture, model, or diagram

Non-Example



The only rectangle with whole number sides and an area of 5 is 1×5
This is true for any prime

16

*A prime number has exactly two factors
One is not prime since it only has one factor*

square number

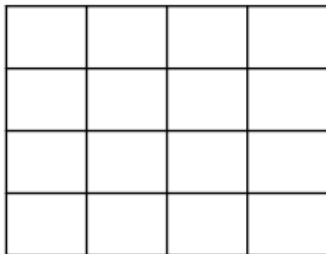
16



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Picture, model, or diagram



Square numbers can make a square array

Non-Example

17

cube number

8

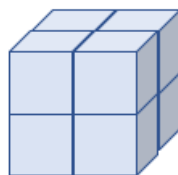


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Picture, model, or diagram

Non-Example



Cube numbers make cubes .This cube is made from 8 small cubes
It is 2 cubes long, 2 cubes wide and 2 cubes deep



17

remainder

$$36 \div 5 = 7 \text{ r } 1$$

the **remainder** is 1



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Picture, model, or diagram

Non-Example



7 equal jumps of 5 and **one more**

$$35 \div 5 = 7$$

there are exactly seven
groups of five in 35

mixed operation

$$3 + 7 \div 2 = 6.5$$



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Picture, model, or diagram

Non-Example



$$3 + 7 + 2 = 12$$

brackets

$$(7 + 3) \div 2 = 5$$

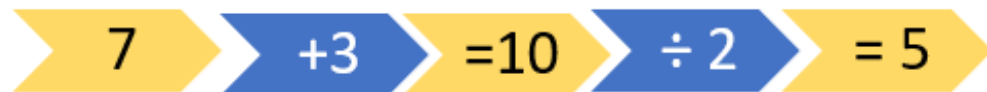


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Picture, model, or diagram

Non-Example



$$7 + 3 \div 2 \neq 5$$

BODMAS

brackets; over (or order); division and multiplication; addition and subtraction

order of operations

$$3 + 7 \div 2 = 6.5$$



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Picture, model, or diagram

Non-Example



$$3 + 7 \div 2 \neq 5$$

hundredth

3.01



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o	•	t	h
⊙ ⊙ ⊙	•		⊙

310

proper fraction

$$\frac{3}{5}$$



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1				
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

A proper fraction is less than or equal to one whole

1				
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

$$\frac{9}{5}$$

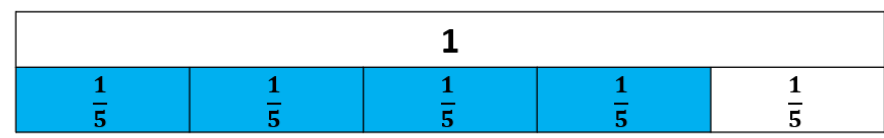
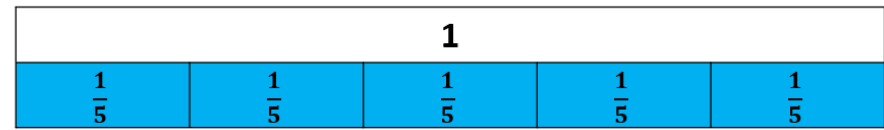
improper fraction

$$\frac{9}{5}$$



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An improper fraction has a numerator that is great than its denominator
It describes numbers that are greater than 1

$$\frac{3}{5}$$

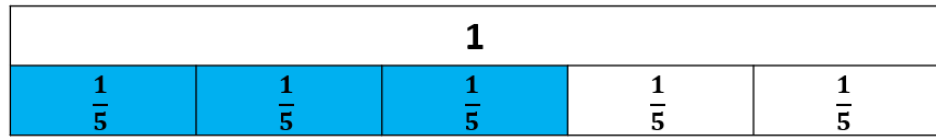
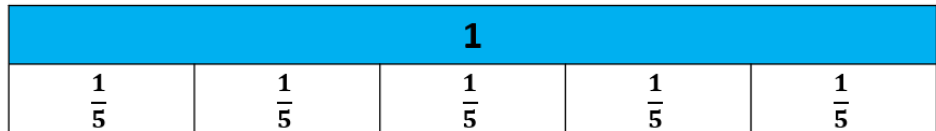
mixed number

$$1 \frac{3}{5}$$



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A mixed number is a whole number and a proper fraction

$$8 \frac{5}{5}$$

decimal fraction

0.37

is the **decimal fraction** equivalent of $\frac{37}{100}$

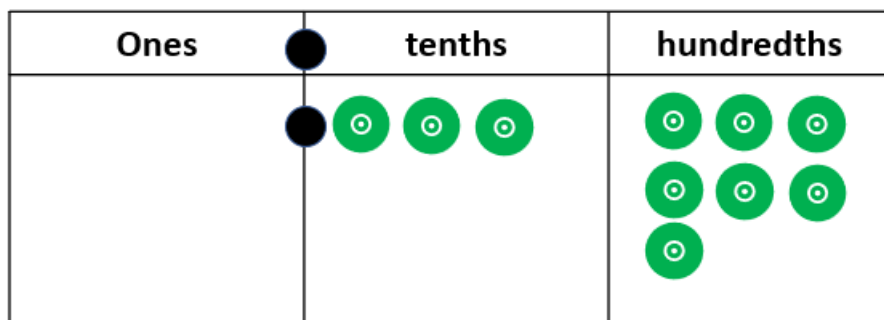


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Improvement and
Advisory Service

Picture, model, or diagram

Non-Example



$$\frac{37}{100}$$

is a proper fraction

Word

thousandth

Example

3.001

Picture, model, or diagram

Ones	t	h	th
			

Non-Example

3100



per cent %
(percentage)
(out of 100)

25 %

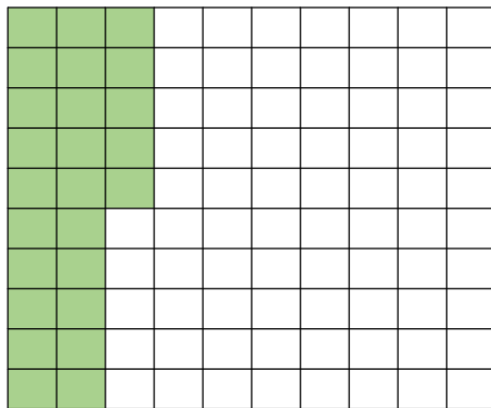
(is equivalent to $\frac{25}{100}$)



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Picture, model, or diagram



25% of the squares are shaded and 75% are not

Non-Example

$\frac{1}{4}$

simplify

$\frac{25}{100}$ **simplifies to** $\frac{1}{4}$

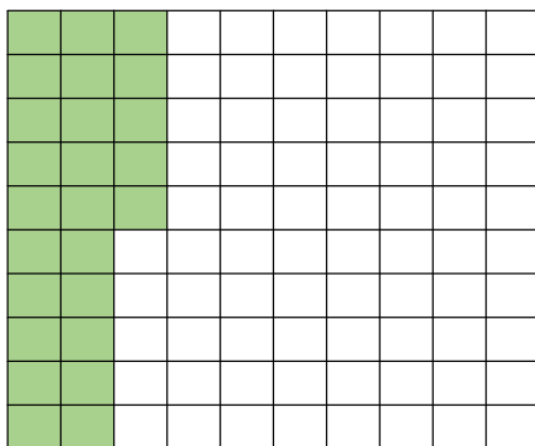


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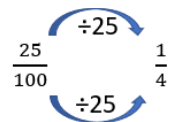
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Picture, model, or diagram

Non-Example



$\frac{25}{100}$ squares are shaded.
One in every four squares is shaded.
 $\frac{1}{4}$ of the squares are shaded



$$\frac{25}{100} = \frac{50}{200}$$

This is equivalent but not simplified

decimal place

3.1

The '1' is in the first decimal place



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Picture, model, or diagram

Non-Example

o	t
	
	
	

310

unit fraction

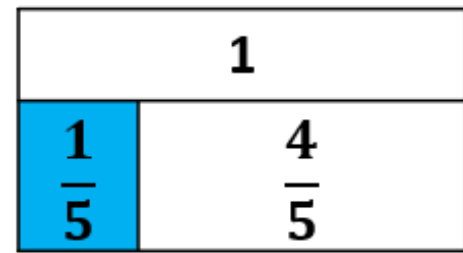
$$\frac{1}{5}$$

For a unit fraction, the numerator is always '1'



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$$\frac{2}{5}$$

recurring decimal

$$0.33333333..... = 0.\dot{3}$$



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Advisory Service

Picture, model, or diagram

Non-Example

$$\frac{1}{3} = 1 \div 3$$

$$\frac{1}{3} = 0.33333333..... = 0.\dot{3}$$

$$\begin{array}{r} 0.333333.... \\ 3 \overline{) 1.1010101010} \end{array}$$

0.25

terminating decimal

0.25



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Picture, model, or diagram

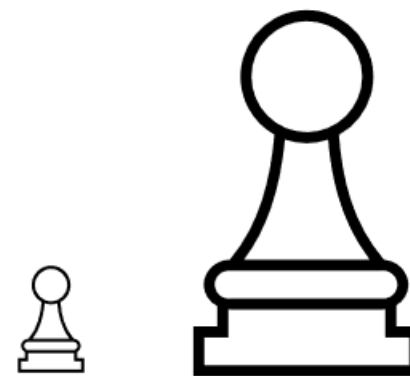
Non-Example

$$\frac{1}{4} = 1 \div 4$$

$$\begin{array}{r} 0.25 \\ 4 \overline{) 1.1020} \end{array}$$

$$0.33333333\dots = 0.\dot{3}$$

scale (drawing)

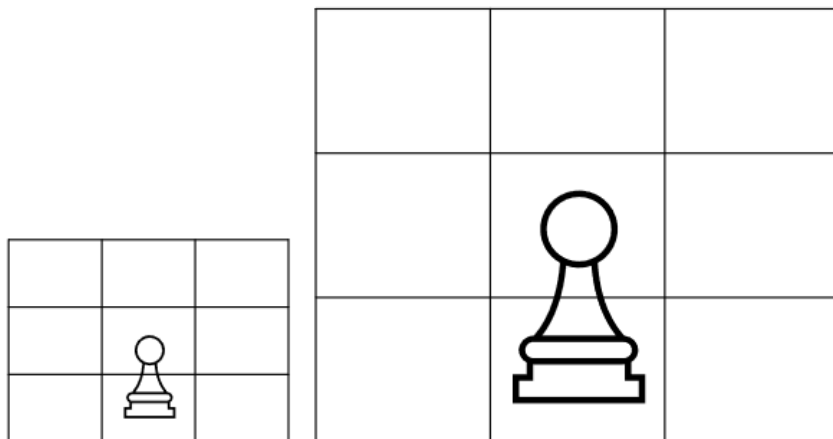


The small chess piece is a scale drawing of the large chess piece.
All the side lengths are in proportion



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These chess pieces do not have corresponding side lengths

unequal sharing

£50 is shared in the ratio
3:2



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Picture, model, or diagram

Non-Example

£50				
£10	£10	£10	£10	£10

£50 is shared in the ratio
1:1

ratio notation

£50 is shared in the ratio
3:2



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£50				
£10	£10	£10	£10	£10
3 shares			2 shares	

£50 is shared
Jack gets $\frac{3}{5}$ and Peter gets $\frac{2}{5}$

formula (-e)

$$A = \pi r^2$$

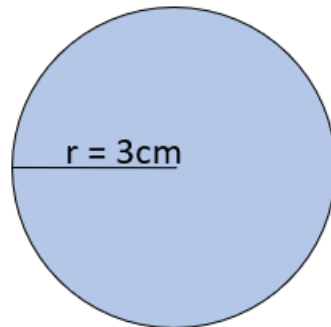
The formula to find the area of a circle is πr^2
 r is the length radius of the circle,
 π is approximately equal to 3.14



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Picture, model, or diagram



Area (of blue circle) = $\pi \times 3 \times 3 \approx 28.26 \text{ cm}^2$

Non-Example

$$r^2$$

equation

$$3t + 7 = 13$$



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Advisory Service

Picture, model, or diagram

Non-Example

13			
t	t	t	7

$$3t + 7$$

expression

$3t + 7$

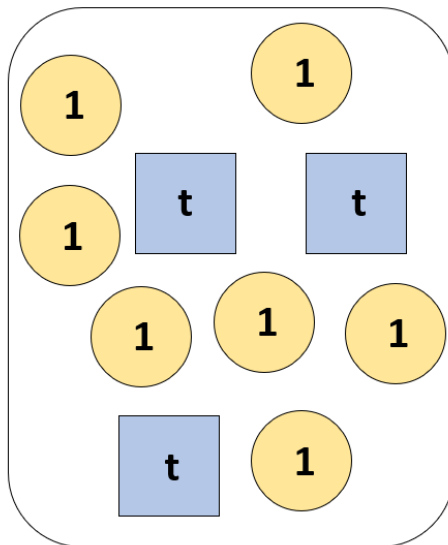


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Advisory Service

Picture, model, or diagram

Non-Example



$$3t + 7 = 13$$

linear sequence

3, 7, 11, 15,

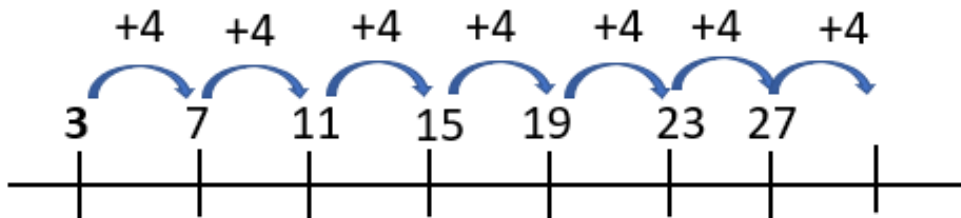
is a **linear number sequence** with a common difference of 4



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Picture, model, or diagram



Non-Example

2, 4, 8, 16,...

the difference between each term is not the same

variable

3t

$$0 < t < 5$$

the value of 't' could be any number between zero and five, it can 'vary'



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Picture, model, or diagram

Non-Example

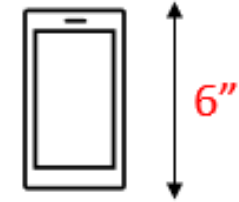
t	3 x t
1	3
2	6
3	9
4	12

3t has different values, depending on t

$$3t = 6 \text{ so } t = 2$$

no other values of t are possible since
 $3 \times 2 = 6$

inch (“)



This mobile phone is 6" long



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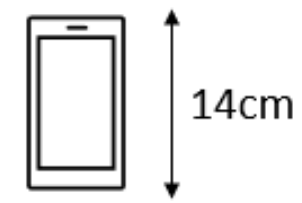
0.39 inch
centimetre

1 inch
2.54 centimetres

cm	inch
1	0.39
2	0.79
3	1.81
10	3.94

inch	cm
1	2.54
2	5.08
3	7.62
10	25.4

(values rounded to 2 decimal places)



This mobile phone is 14cm long

pint



This bottle has a capacity of **1 pint**



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1 litre	
1.76 pint	

1 pint	
0.57 litre	

litre	pint
1	1.76
2	3.52
3	5.28
10	17.60

pint	Litre
1	0.57
2	1.14
3	1.70
10	5.68

(values rounded to 2 decimal places)



This spoon has a capacity of 5 millilitres

area



The area of the Isle of Wight is approximately 380 km²

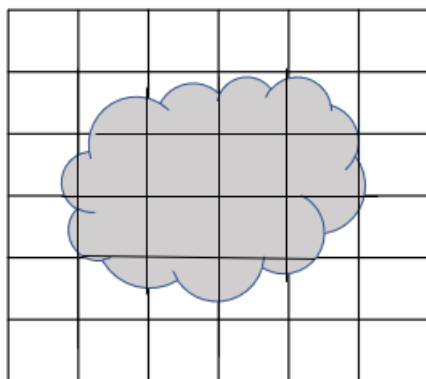


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Picture, model, or diagram

Non-Example



How many squares are covered , or part-covered, by the grey cloud?



The Isle of Wight coastal path is a distance of approximately 108 km

litre



This bottle has a capacity of 1 **litre**



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1000 ml = 1 litre

100ml	100ml	100ml	100ml	100ml	100ml	100ml	100ml	100ml	100ml
1 litre									



This glass has a capacity of 1 **pint**

millilitre



This spoon has a capacity of 5 millilitres



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1000 ml = 1 litre

100ml	100ml	100ml	100ml	100ml	100ml	100ml	100ml	100ml	100ml
1 litre									



This glass has a capacity of 1 **pint**

mile



The Isle of Wight coastal path is a distance of approximately 70 miles



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1 mile	
1.6 kilometres	

1 kilometre	
0.62 mile	

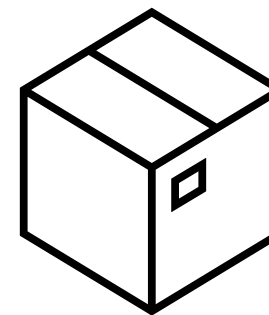
mile	km
1	1.6
2	3.2
3	4.8
10	16

km	mile
1	0.62
2	1.2
3	1.8
10	6.2



The area of the Isle of Wight is approximately 380 km²

volume



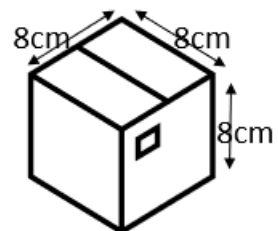
This box has a volume of 512 cm^3



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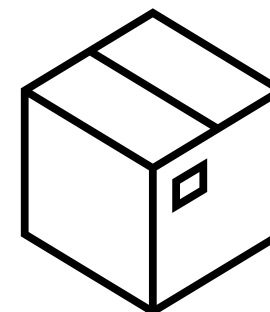
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Picture, model, or diagram



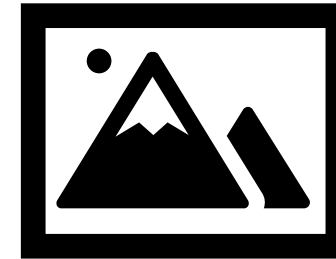
This volume (V) of the box is calculated by
 $V = \text{length} \times \text{width} \times \text{height}$
 $v = 8 \times 8 \times 8$
 $V = 512 \text{ cm}^3$

Non-Example



This box has a surface area of 384 cm^2

square centimetre (cm²)



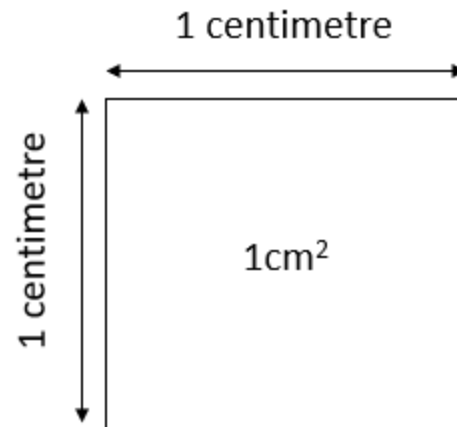
The area of this picture is 300cm²



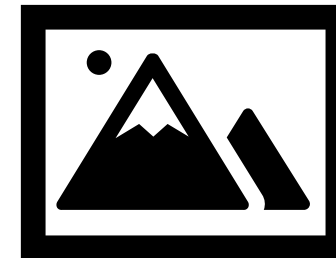
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Picture, model, or diagram

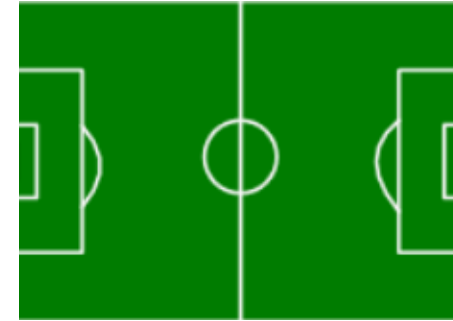


Non-Example



The perimeter (distance around the outside edge) of this picture is 80cm

square metre (m²)



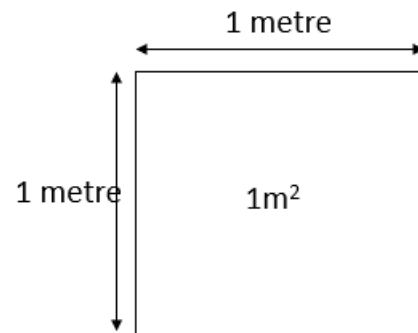
The area of this football pitch is 7875 m²



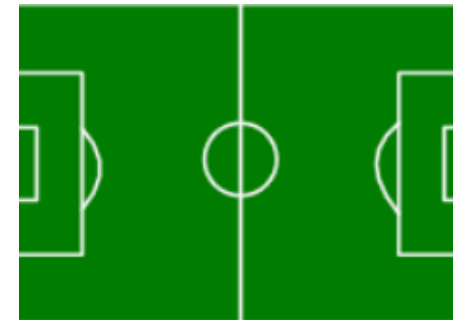
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Picture, model, or diagram

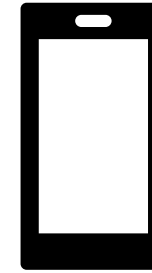


Non-Example



The length of this football pitch is 105 m

cubic centimetre (cm³)



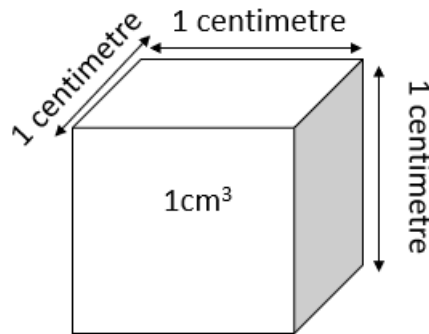
This mobile phone has a volume of 70 cm³



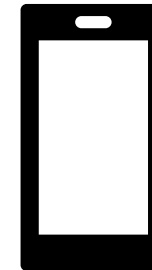
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Picture, model, or diagram



Non-Example



This mobile phone is 14cm in length

cubic metre

(m³)



This sack holds 1 cubic metre of logs

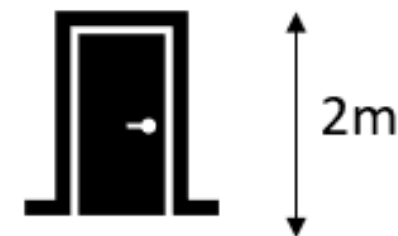
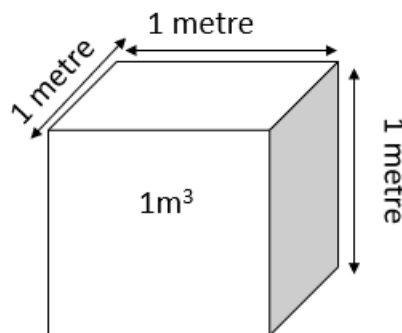


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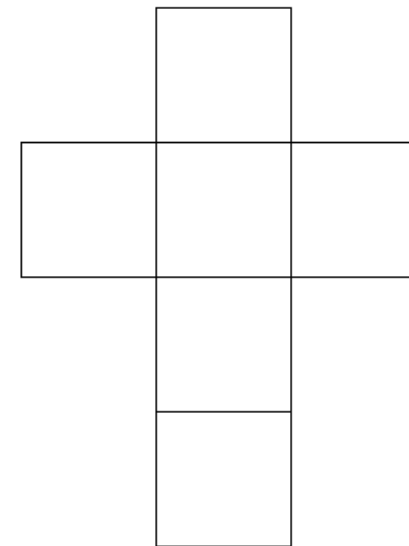
Picture, model, or diagram

Non-Example



This door is 2 metres high

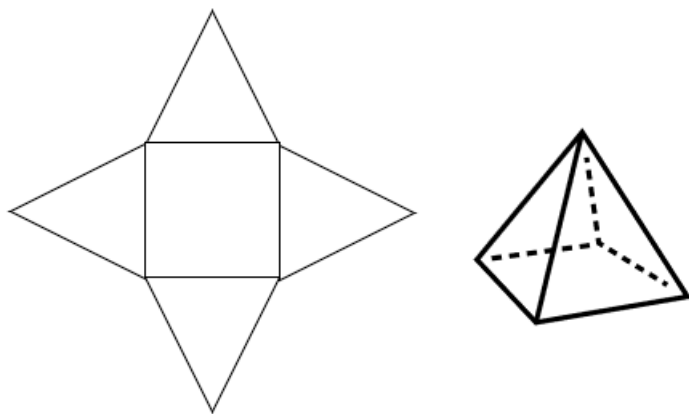
net (of a shape)



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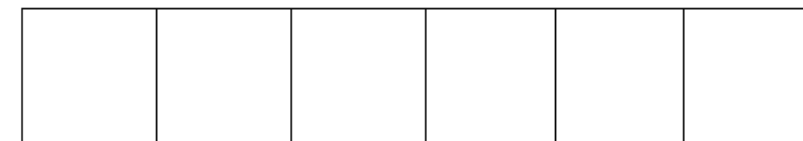
Improvement and
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Picture, model, or diagram

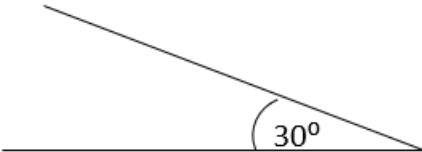


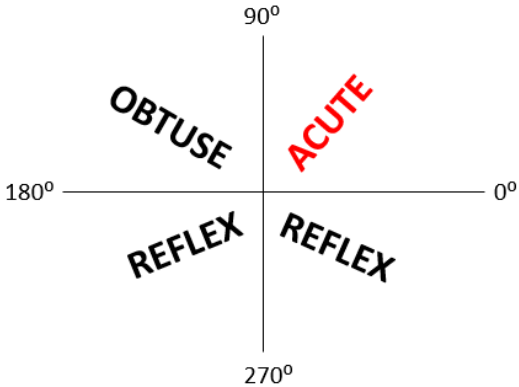
When folded, this net will make a square-based pyramid

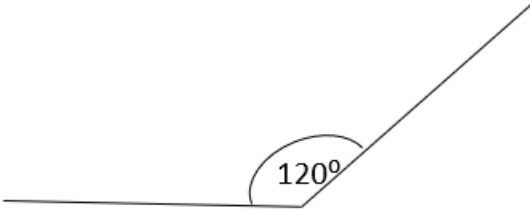
Non-Example



Word
acute

Example


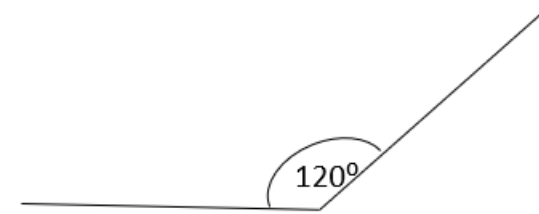
Picture, model, or diagram


Non-Example


Word

Example

obtuse

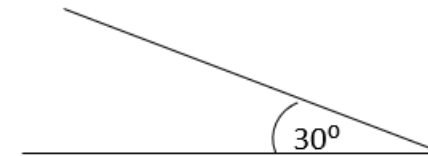
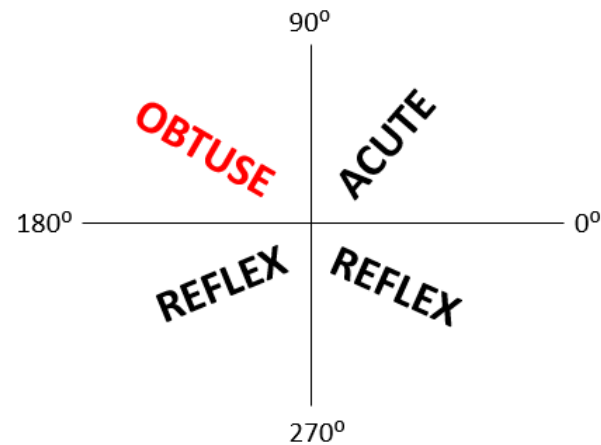


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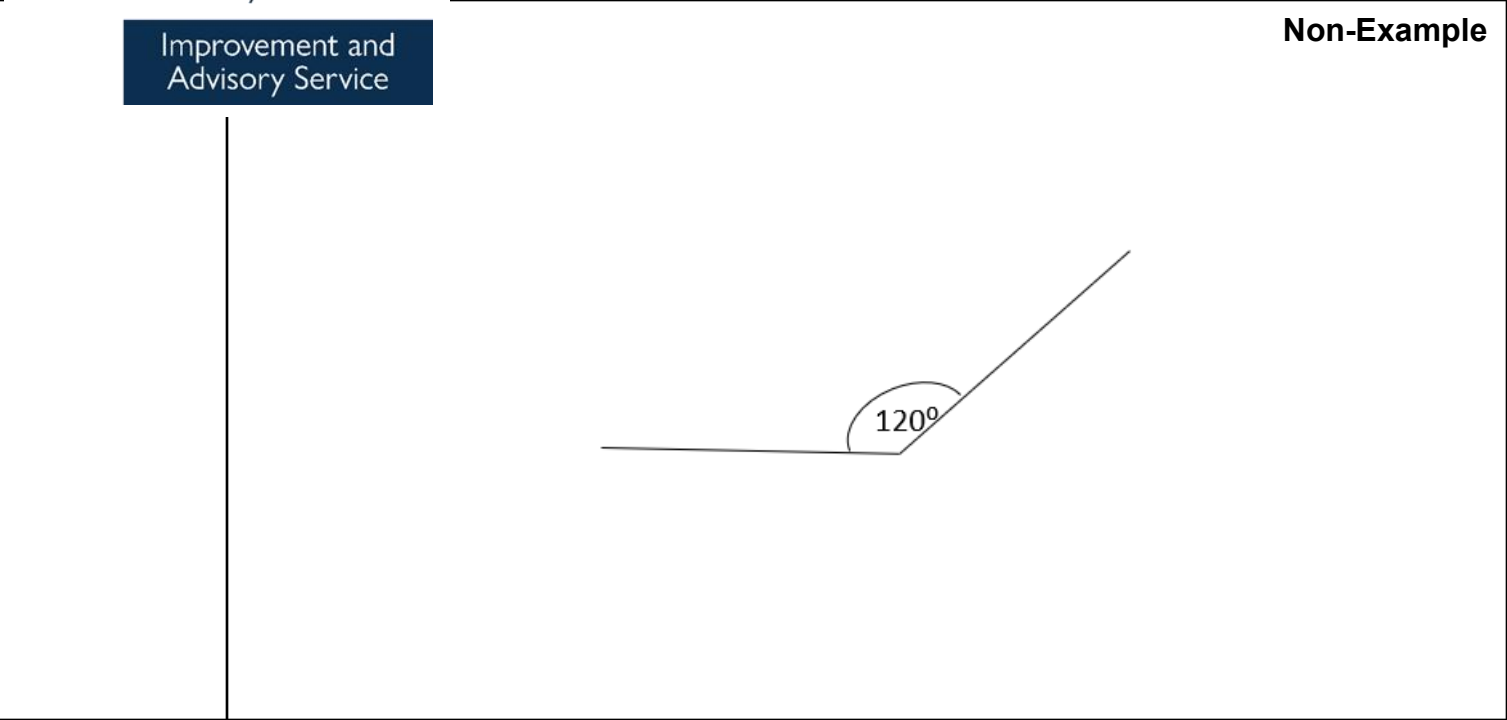
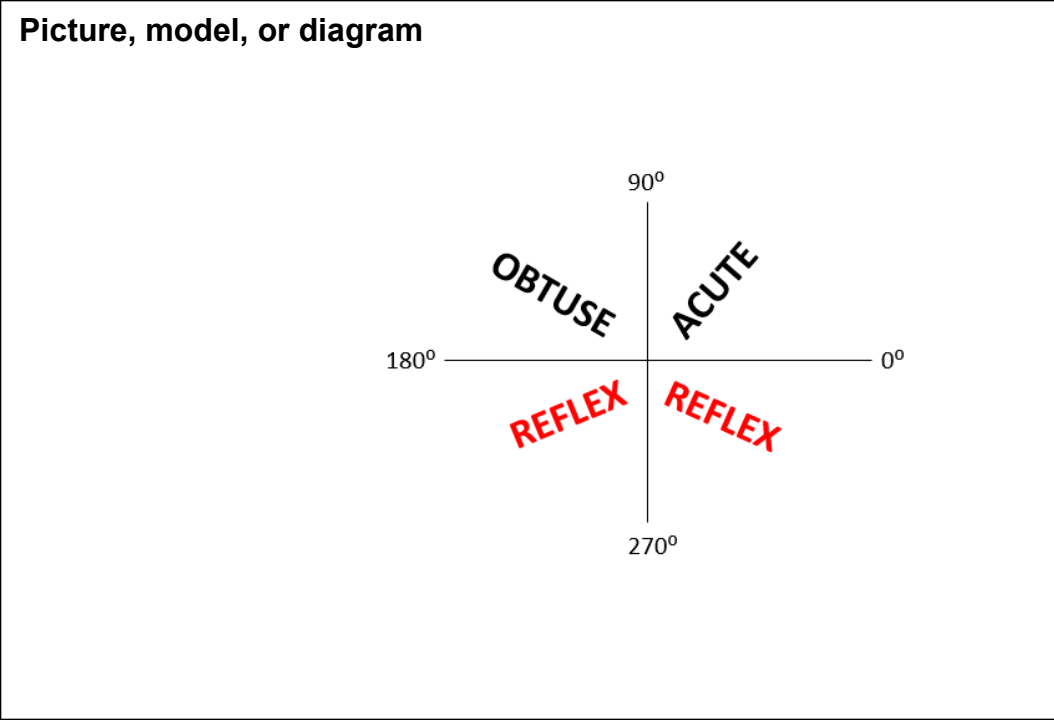
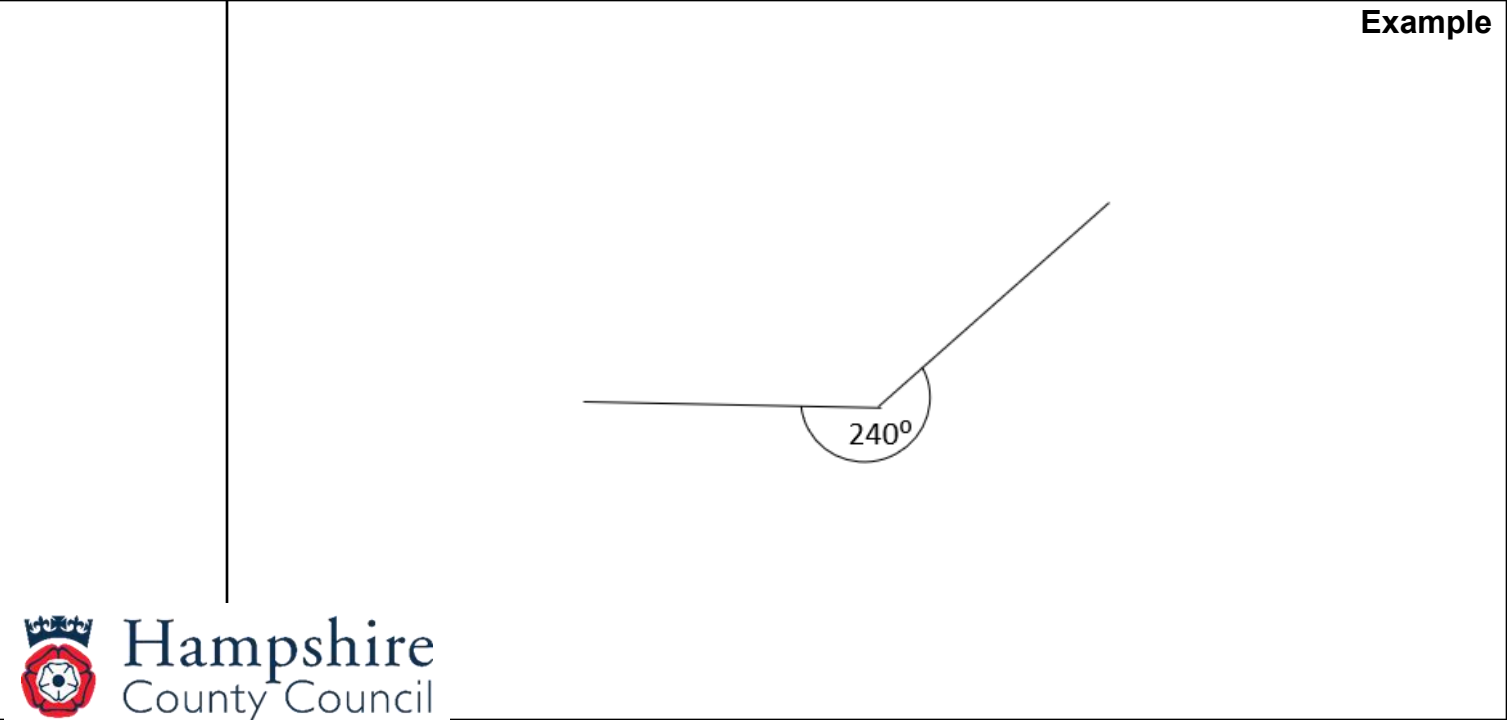
Picture, model, or diagram

Non-Example



Word

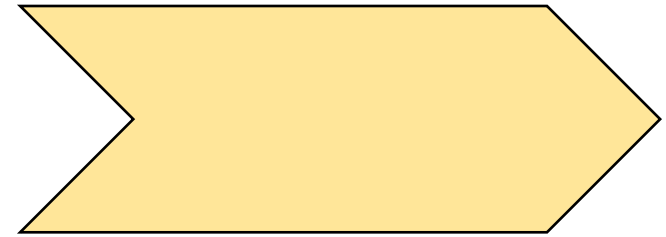
reflex



Word

Example

polygon

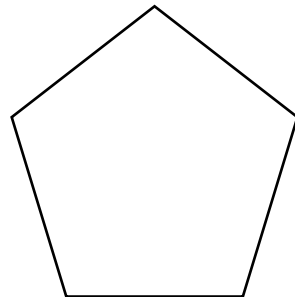
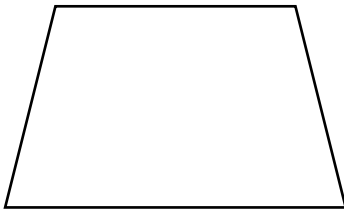


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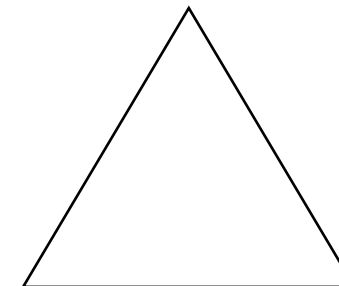
Improvement and
Advisory Service

Picture, model, or diagram

Non-Example



regular (polygon)



This equilateral triangle is **regular**



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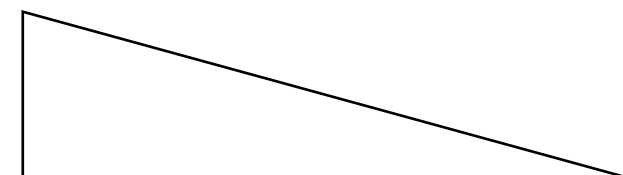
Improvement and
Advisory Service

Picture, model, or diagram



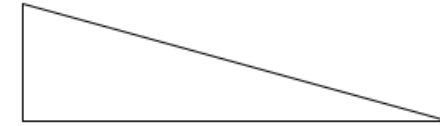
A polygon with all side lengths equal, and all internal angles equal, is **regular**

Non-Example



This scalene triangle is irregular

irregular (polygon)



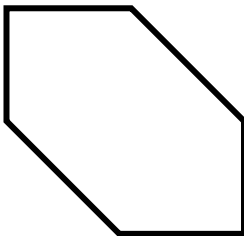
This scalene triangle is an **irregular polygon**



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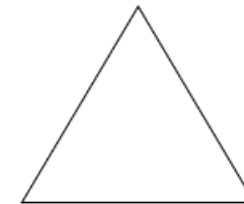
Improvement and
Advisory Service

Picture, model, or diagram



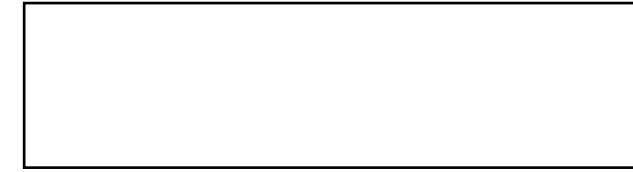
Irregular polygons do not have all sides or
internal angles equal

Non-Example



This equilateral triangle is a regular polygon

dimension



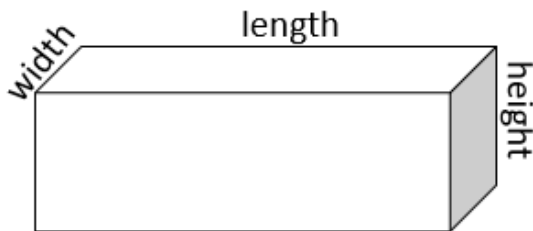
This rectangle has two **dimensions**, length and width.

We call it a 2-D or two-dimensional shape



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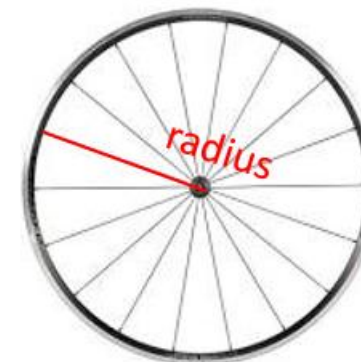
length, width and height are all **dimensions**

7

Seven is a quantity without direction, it could be 7 units in any direction.

Seven has no **dimension**

radius
(radii)



One spoke from circumference to the centre of this bicycle wheel forms a **radius**

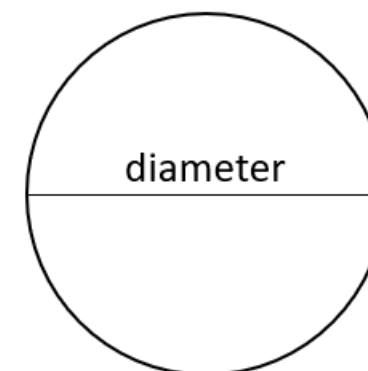
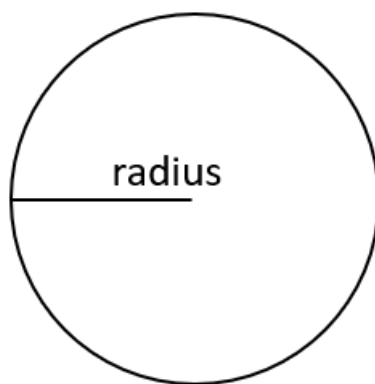


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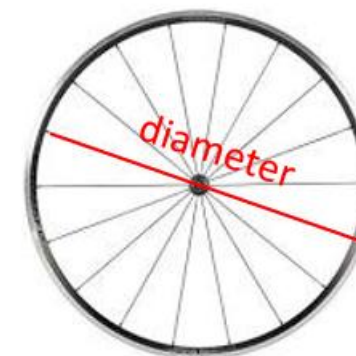
Improvement and
Advisory Service

Picture, model, or diagram

Non-Example



diameter



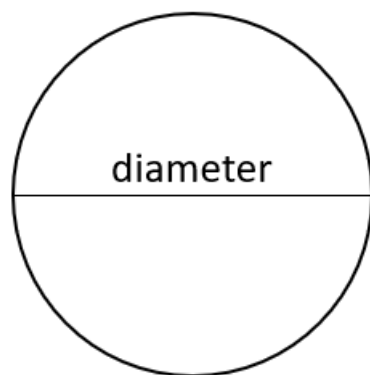
Two spokes in a straight line through the centre of this bicycle wheel form a **diameter**



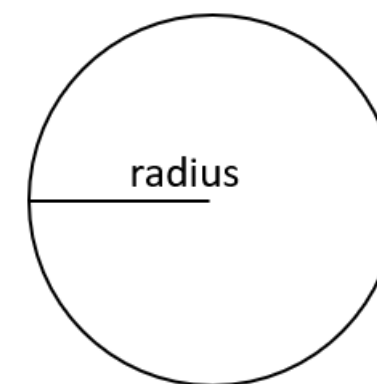
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Picture, model, or diagram



Non-Example



circumference



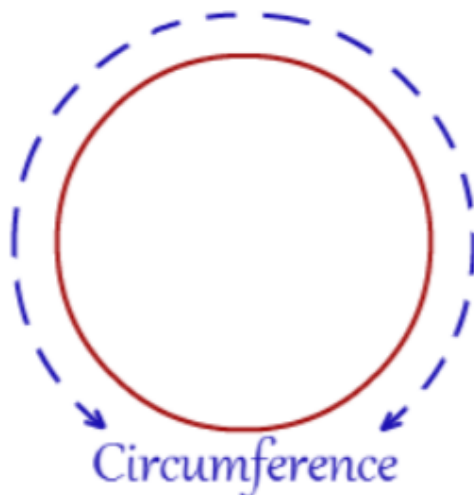
The **circumference** of this bicycle wheel is the distance around its outer edge.
The bicycle tyre sits on the **circumference**.



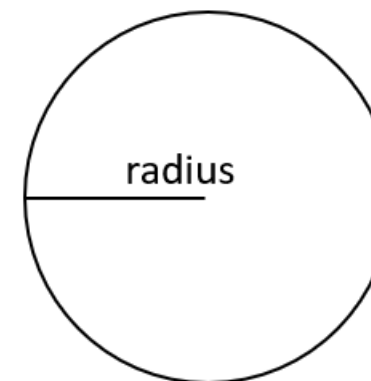
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Advisory Service

Picture, model, or diagram



Non-Example



reflection



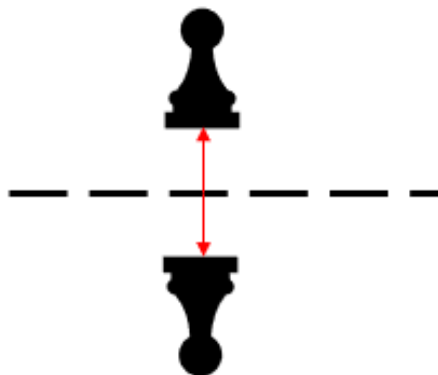
This tile is created using reflection



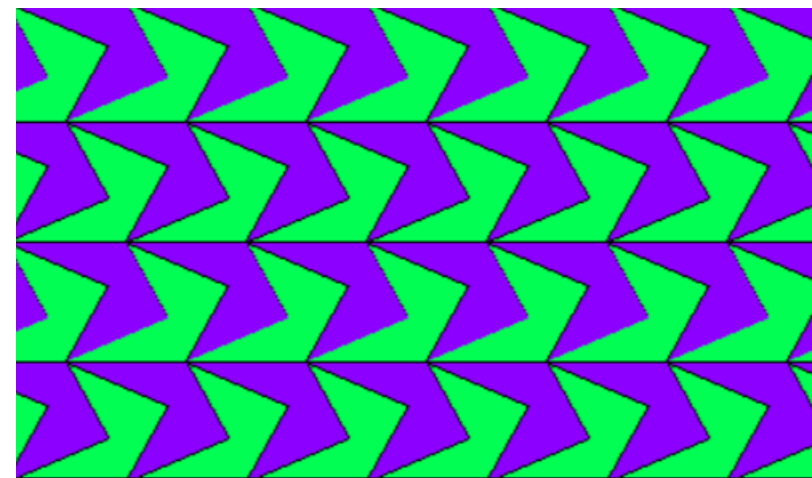
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Picture, model, or diagram

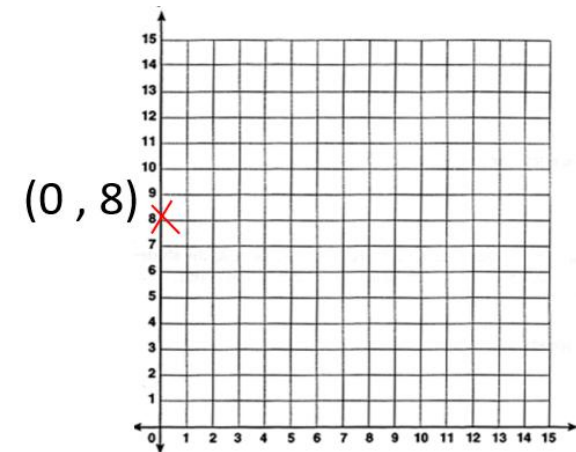


Non-Example



Each row shows the green and the purple shapes 'sliding'
(or translating)

axis (-es)



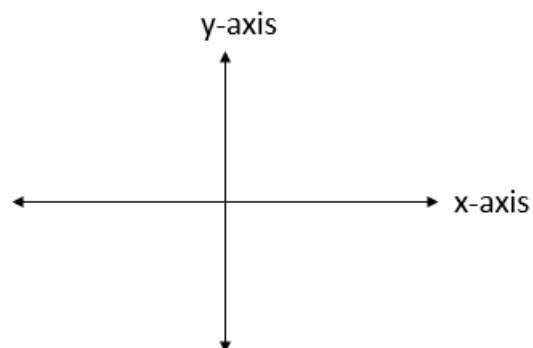
The point (0,8) is plotted on the **y-axis**



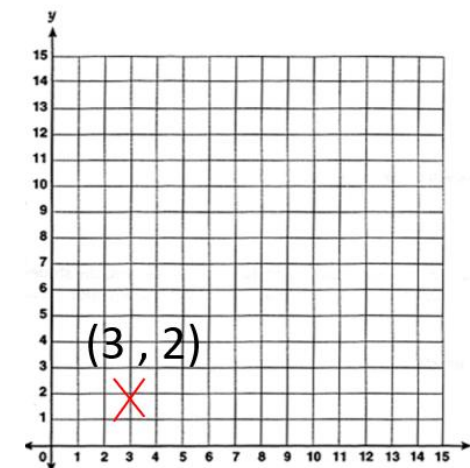
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Advisory Service

Picture, model, or diagram

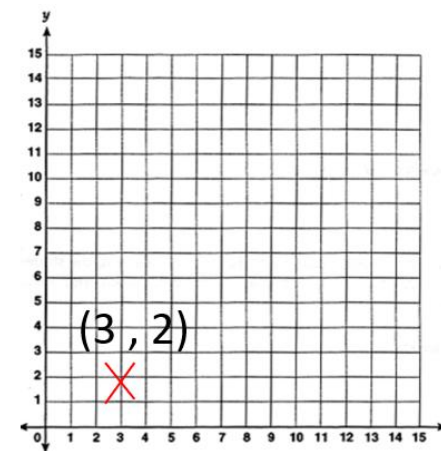


Non-Example



The point (3,2) is plotted in the first quadrant of the coordinate plane

coordinate plane



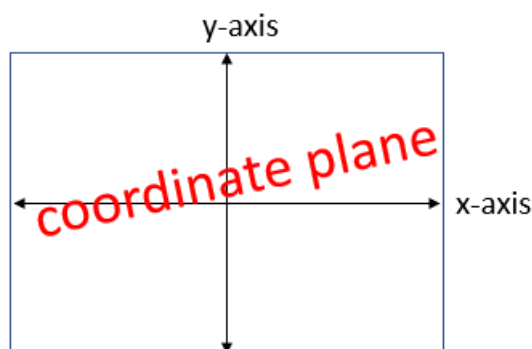
The point (3,2) is plotted in the first quadrant of the
coordinate plane



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Advisory Service

Picture, model, or diagram



Non-Example



This point is drawn in space, not on a grid.
It has no point of reference on a coordinate plane

timetable



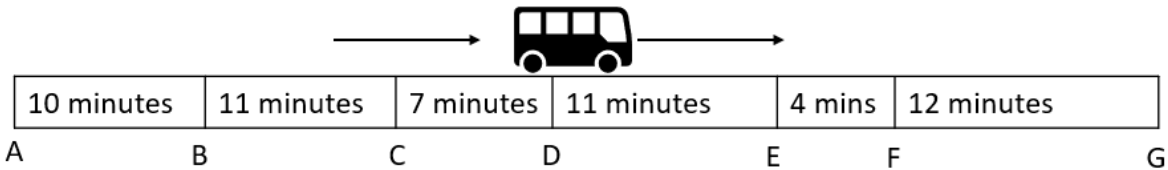
BUS TIMETABLE

Town A	06:50		07:25	08:45	09:10	09:45
Town B	07:00	07:25	07:41	08:55	09:19	09:53
Town C	07:11	07:47	07:51	09:04	09:19	10:02
Town D	07:18	07:59	07:59	09:11	09:31	10:11
Town E	07:29	08:12	08:09	09:16	09:37	10:16
Town F	07:33	08:15	08:14	09:20	09:47	10:21
Town G	07:45	08:30	08:30		10:05	10:40



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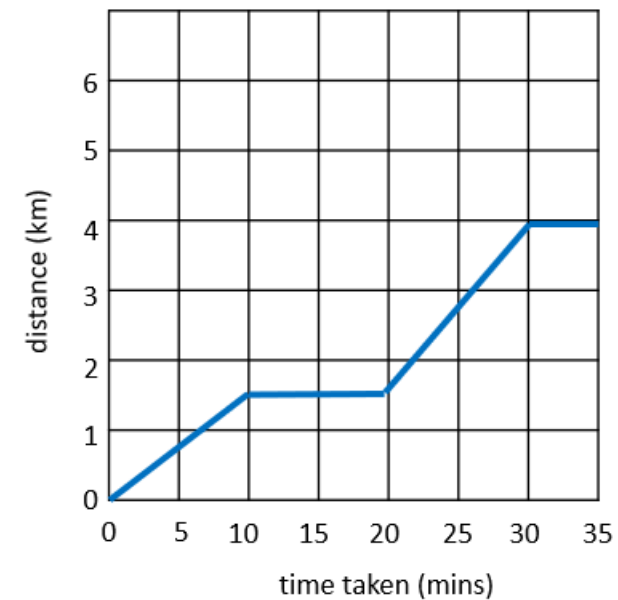
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Time taken (mins)	Distance (km)
0-10	1.5
10-20	1.5
20-30	4
30-40	4
over 40	4

This is a results table

line graph



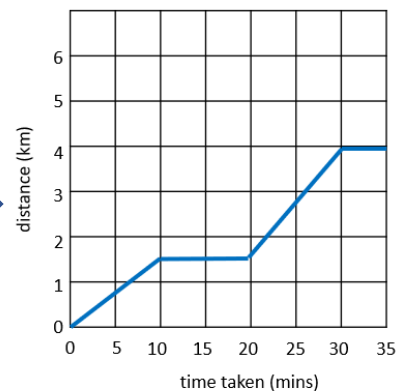
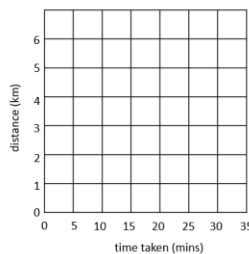
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Picture, model, or diagram

Non-Example

Time taken (mins)	Distance (km)
0-10	1.5
10-20	1.5
20-30	4
30-40	4
over 40	4



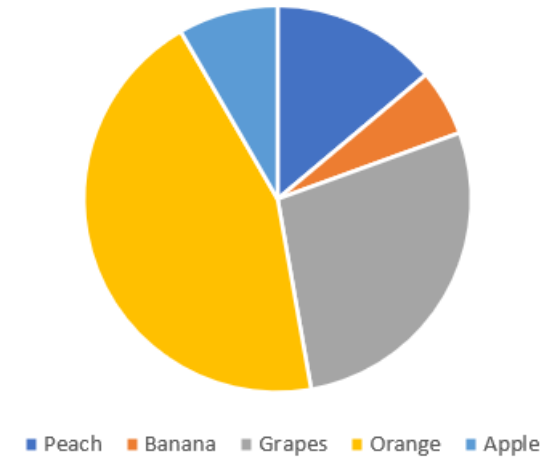
pie chart



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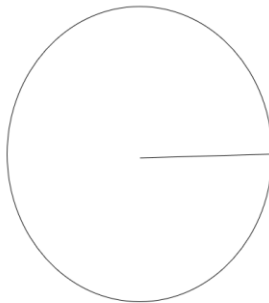
Class R's favourite fruits



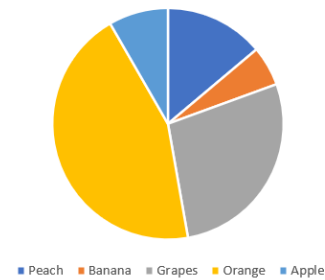
Picture, model, or diagram

Fruit	Frequency	Degrees
Peach	5	50
Banana	2	20
Grapes	10	100
Orange	16	160
Apple	3	30
	36	360

$360^\circ \div 36 = 10^\circ$ for each child

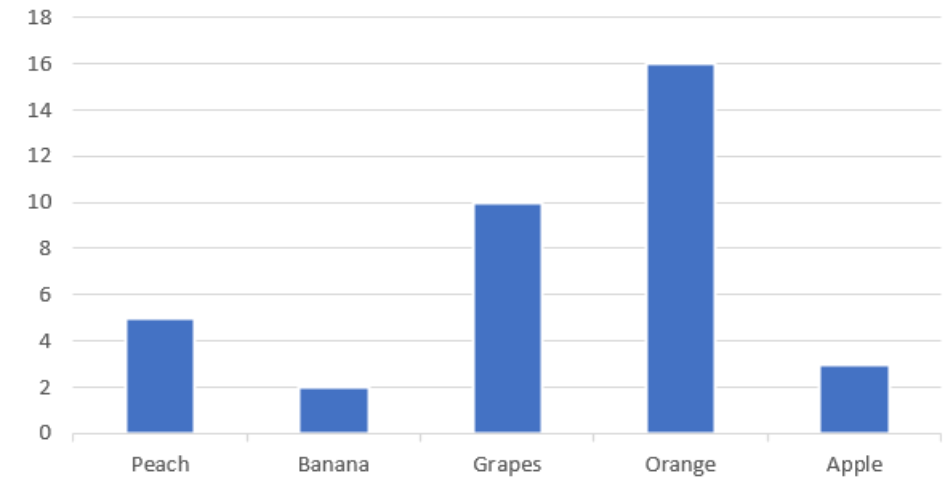


Class R's favourite fruits



Non-Example

Class R's favourite fruits



mean (average)

5 children had the following shoe sizes:

7 , 5 , 4 , 5 , 4

The **mean average shoe size is size 5**



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Advisory Service

Picture, model, or diagram

Non-Example

25				
7	5	4	5	4

$$7 + 5 + 4 + 5 + 4 = 25$$

$$25 \div 5 = 5$$

25				
5	5	5	5	5

5 children had the following shoe sizes:

4 , 4 , 5 , 5 , 7

The median is 5

Word	Example
Picture, model, or diagram	Non-Example



Word	Example
Picture, model, or diagram	Non-Example

